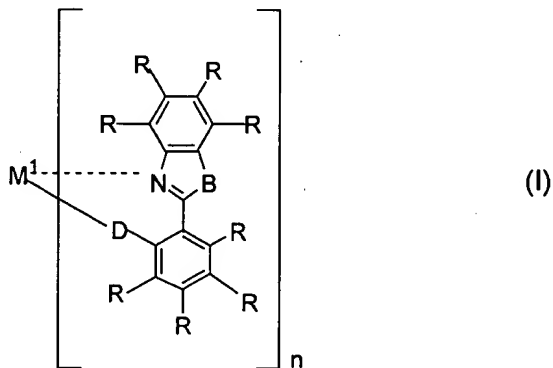


## I. Critical Feature of the Present Invention

By way of review, the present invention defined in pending claim 1 is directed to an organometallic luminescent material of formula (I); and claims 2 to 4, to an electroluminescent device comprising an organic luminescent layer containing said organometallic luminescent material:



wherein,

$M^1$  is a monovalent or tetravalent metal selected from the group consisting of Li, Na, K, Zr, Si, Ti, Sn, Cs, Fr, Rb, Hf, Pr, Pa, Ge, Pb, Tm and Md;

R is hydrogen or  $C_{1-10}$  alkyl;

B is O, S, Se or Te;

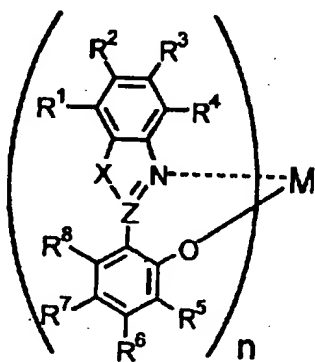
D is O or S; and

n is an integer ranging from 1 to 4.

The compound of formula (I) of the present invention which is capable of emitting pure blue light and thermally stable, can be advantageously used in a luminescent layer to provide a bright blue-emitting device with high thermal stability and improved luminous efficiency.

## II. Summary of Enokida Patent

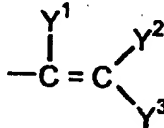
The Enokida patent discloses an organometallic luminescent material of formula (1) and an electroluminescent device comprising the same:



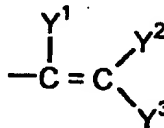
(1)

wherein,

X is -O-, -S-, >N-R<sup>9</sup> or >CR<sup>10</sup>(R<sup>11</sup>);

R<sup>1</sup> to R<sup>11</sup> are each independently , hydrogen, halogen, cyano, nitro, hydroxyl,

siloxo, acyl, carboxyl, sulfo, alkyl, alkoxy, alkylthio, amino, aryl, cycloalkyl, aryloxy,

arylthio or hetero-ring, at least one selected from R<sup>1</sup> to R<sup>8</sup> being  and R<sup>1</sup> to R<sup>8</sup> being optionally combined together to form a ring containing at least one atom selected from the group consisting of oxygen, sulfur and nitrogen (Y<sup>1</sup>, Y<sup>2</sup> and Y<sup>3</sup> are each independently hydrogen, cyano, alkyl, cycloalkyl, aryl or hetero-ring, Y<sup>2</sup> and Y<sup>3</sup> being optionally combined together to form a ring containing at least one atom selected from the group consisting of oxygen, sulfur and nitrogen);

Z is C or N;

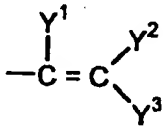
M is a divalent to tetravalent metal; and

n is an integer ranging from 2 to 4.

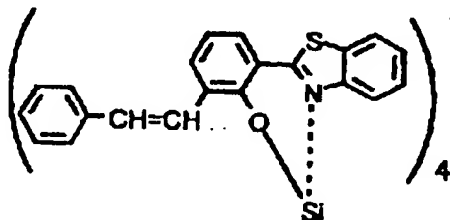
### III. Comparison of the Present Invention with the Enokida Patent

The Examiner pointed out that the luminescent material of formula (I) of the present invention has the same structure as the compound of formula (1) disclosed in the Enokida patent.

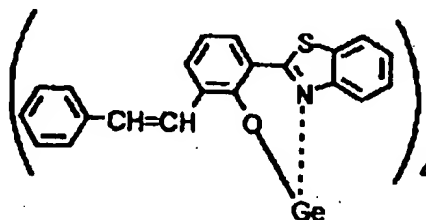
However, from the above structure comparison of the compounds of formulae (I) and (1), it is submitted that the structures of two compounds are distinct in that the ring substituents represented as R in the inventive compound of formula (I) are hydrogen or C<sub>1-10</sub> alkyl, whereas at least one of the corresponding substituents, i.e., R<sup>1</sup> to R<sup>8</sup>, in the compound of formula (1) of the

Enokida patent is required to be  (wherein, Y<sup>1</sup>, Y<sup>2</sup> and Y<sup>3</sup> have the same meanings as defined in formula (1)).

In this connection, among the representative organometallic complexes disclosed in the Enokida patent (see pages 5-12, Table 1 of the Enokida specification), those having structures similar to the inventive compound are tetravalent metal complexes of Nos. 60 and 61 obtained in Examples 26 and 27, respectively, shown below:



(compound 60)



(compound 61)

The specific structure of formula (I) of the present invention is not included in the Enokida patent, and, therefore, there exists an obvious structural distinction therebetween.

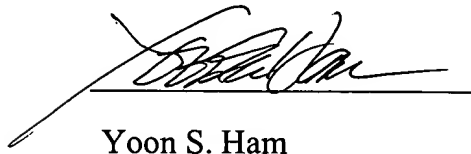
Further, such a luminescent material of the present invention emits pure blue light and has high thermal stability, thereby providing an organic electroluminescent device with high thermal stability and high purity blue color when used in a luminescent layer, as is supported by the DSC(FIG. 3), spectrum (FIGs. 2 and 4) and CIE color coordinate results (FIG. 5) in Examples 1 and 3 of the present specification. Most of all, in FIG. 5, the CIE color coordinate of the multi-layered OLED prepared in Preparation 6 is  $x=0.15$  and  $y=0.08$  at above  $10,000 \text{ cd/m}^2$ , which is the nearest value to the NTSC standard value of  $x=0.14$  and  $y=0.08$ , and means that the inventive device can indeed emit blue color of high purity.

The Enokida patent, on the other hand, is silent on thermal and luminescent color properties of the complexes and the devices comprising the same. Accordingly, as the Enokida patent fails to disclose or teach the present invention, it is respectfully submitted that the 102 rejection of claims 1 to 4 should be withdrawn.

#### **IV. Conclusion**

In view of the foregoing discussions, it is respectfully submitted that the present invention as defined in the pending claims 1 to 4 is not anticipated by or nonobvious over the disclosures contained in the reference relied upon by the Examiner and, therefore, it is earnestly requested that the Examiner's rejection be withdrawn and that the pending claims be allowed in their present form.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Yoon S. Ham', is written over a horizontal line. The signature is fluid and cursive.

Yoon S. Ham

Reg. No. 45,307